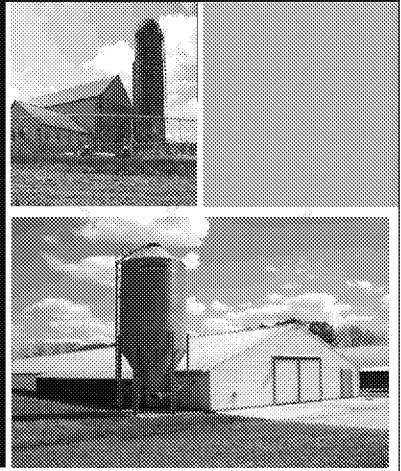
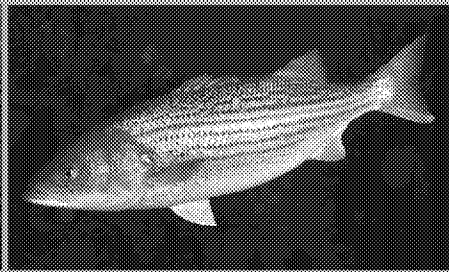
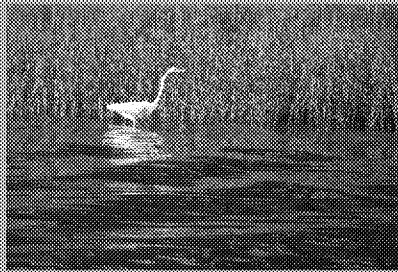


EPA Animal Agriculture Program Assessments

Chesapeake Bay Commission Meeting
November 5, 2015



Kelly Shenk, EPA Region III, Agricultural Advisor
shenk.kelly@epa.gov
410.267.5728



EPA Animal Agriculture Program Assessments

- VA, PA, and NY assessments published March 2015.
- WV, MD, and DE assessments published August 2015.

Link: <http://www2.epa.gov/chesapeake-bay-tmdl/epas-assessments-animal-agriculture-programs-chesapeake-bay-watershed>

Click Agriculture Tab

Outline

- Why we conducted the assessments
- What we evaluated
- What we found – MD, VA, and PA
- Utility of assessments

Acknowledgments

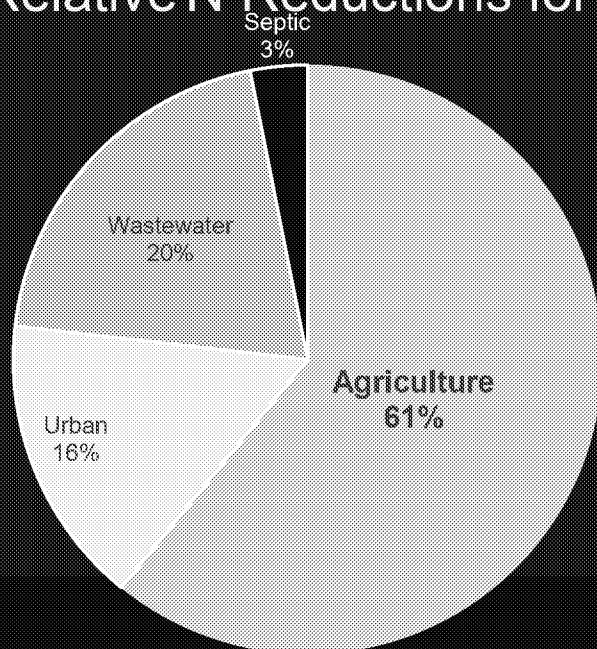
- EPA Region III CAFO Team:
 - David McGuigan
 - Mark Zolandz
 - Kyle Zieba
 - Joel Blanco-Gonzalez
 - Brittany Smith

Authority

- EPA conducts periodic reviews of state programs as part of its oversight responsibilities under the Clean Water Act.
- Satisfies EPA commitment made in the “CBF Settlement Agreement”

Agriculture is a Big Part of the Bay Restoration Solution

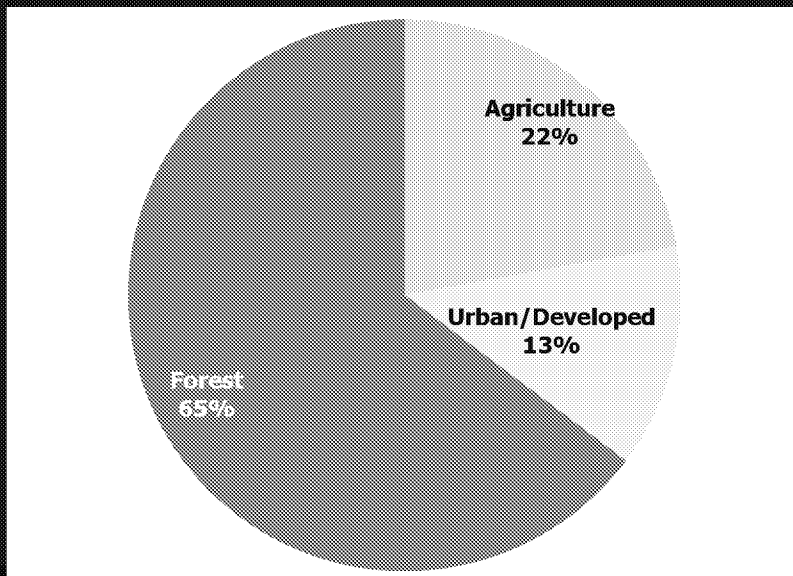
Relative N Reductions for Bay TMDL



States are relying on agriculture to achieve roughly two-thirds of the necessary nutrient reductions for the Bay TMDL.

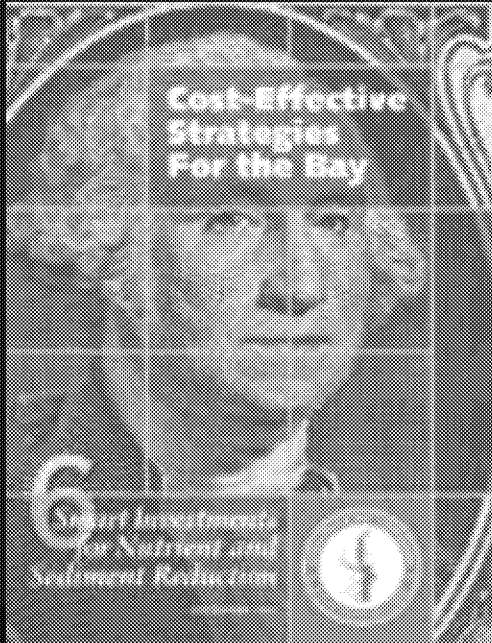
Ag is 2nd Largest Land Use

Chesapeake Watershed Land Use



*Ag is 2nd
largest land
use in CB
Watershed.*

Ag is Cost-Effective - CBC 2004 Report

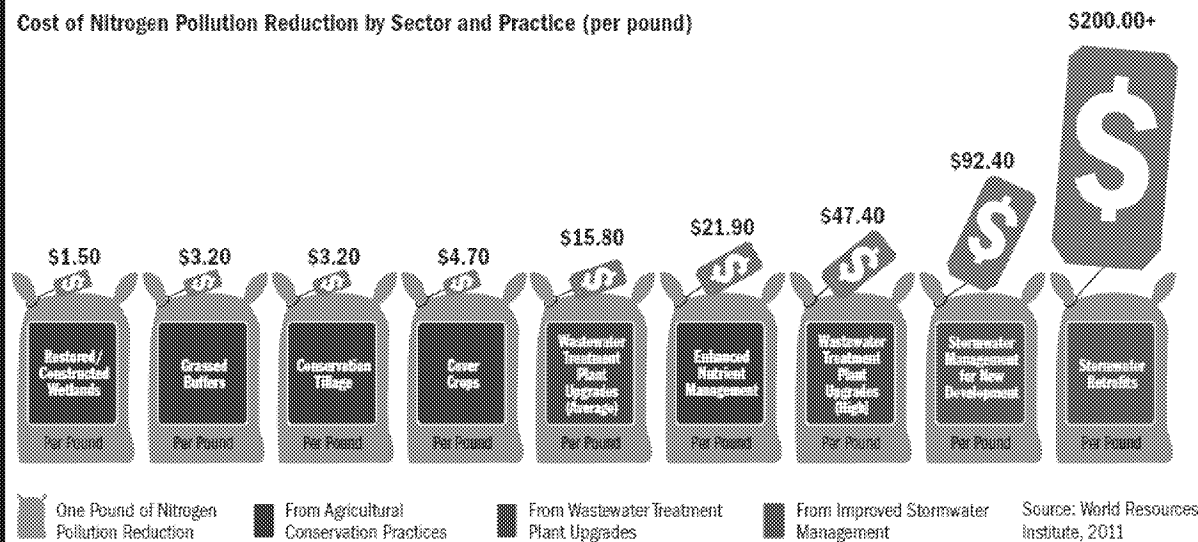


1. Wastewater Treatment Plant Upgrades
2. Diet and Feed Adjustments
3. Traditional Nutrient Management
4. Enhanced Nutrient Management
5. Conservation Tillage
6. Cover Crops

Urban retrofits are expensive. WWTPs controls are underway.

Agricultural reductions are cost-effective

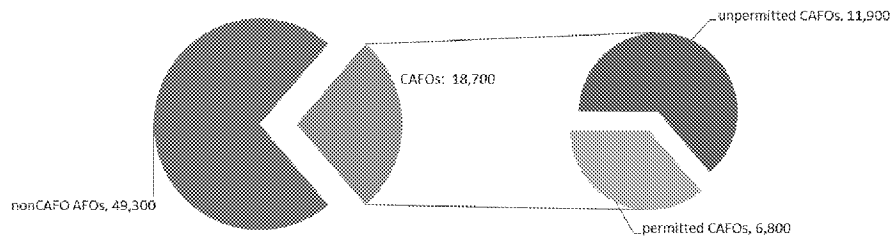
Cost of Nitrogen Pollution Reduction by Sector and Practice (per pound)



World Resources Institute, February 2010

EPA Reach is Limited

AFOs, CAFOs and NPDES permits



Total AFOs: 68,000

Total CAFOs: 18,700

Note: Figure excludes beef operations that do not meet USDA's definition of an operation with "cattle on feed"

10% of animal operations are permitted CAFOs.
EPA does not regulate non-CAFO cropland.

Data Sources: 2012 USDA Census of Agriculture; EPA NPDES CAFO Status Report

Strong State Animal Agriculture Programs are Critical

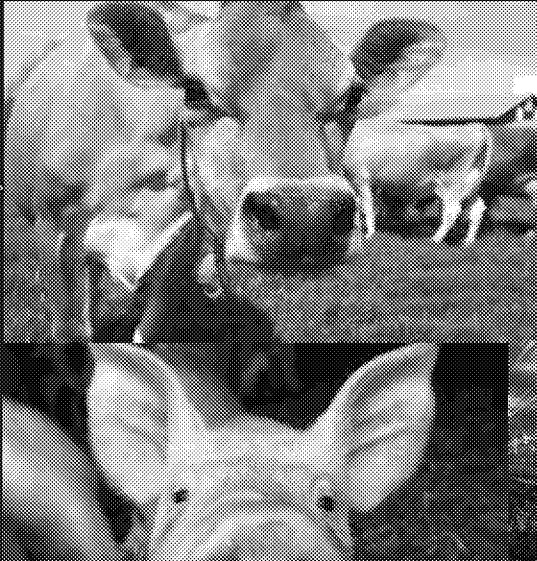


Strong State Animal Agriculture Programs are Critical



Regulatory Permit Programs
(federal or state)

Strong State Animal Agriculture Programs are Critical



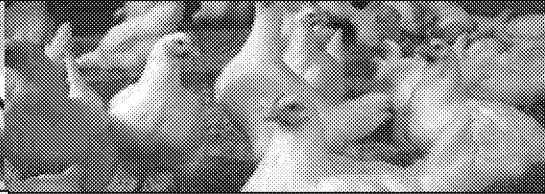
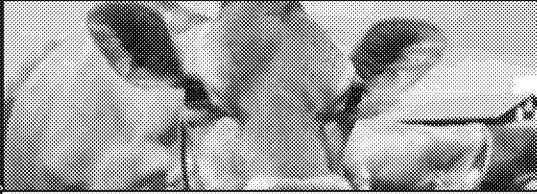
State Nutrient Management Program

(regulatory or voluntary)

Regulatory Permit Programs

(federal or state)

Strong State Animal Agriculture Programs are Critical



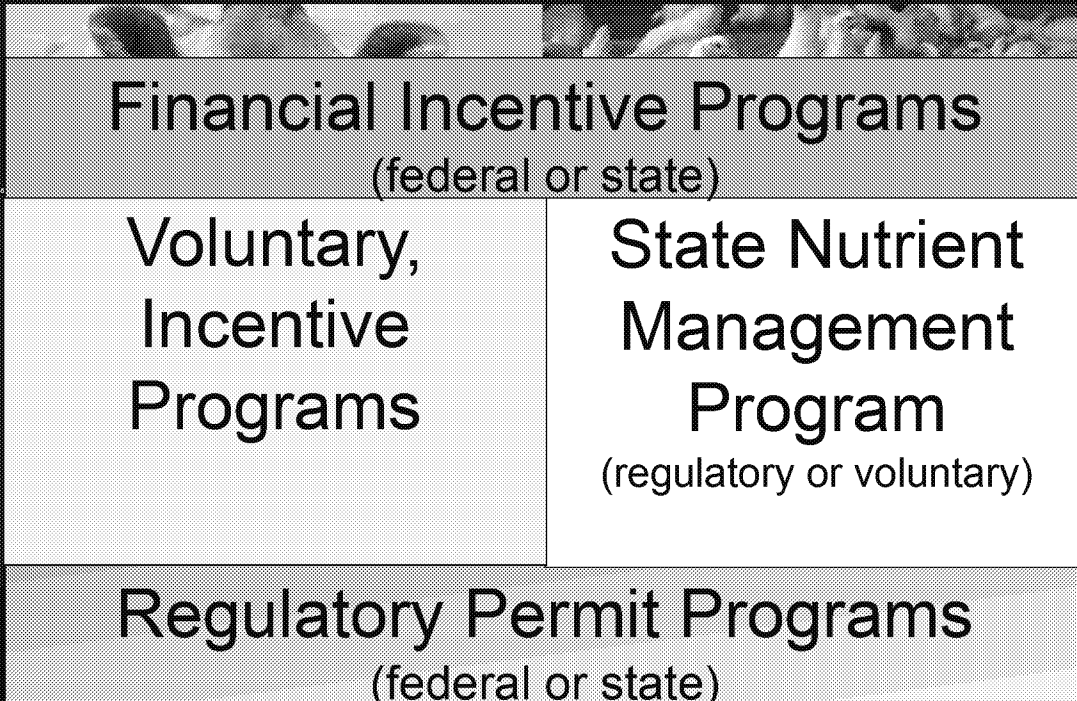
Voluntary,
Incentive
Programs

State Nutrient
Management
Program

(regulatory or voluntary)

Regulatory Permit Programs
(federal or state)

Strong State Animal Agriculture Programs are Critical



Strong State Animal Agriculture Programs are Critical

Additional Regulations

Financial Incentive Programs

(federal or state)

**Voluntary,
Incentive
Programs**

**State Nutrient
Management
Program**

(regulatory or voluntary)

Regulatory Permit Programs

(federal or state)

What we Evaluated

- Program requirements
- Universe of operations covered
- Staffing and funding
- Data management
- Agency communication
- On-the-ground implementation
- Alignment with TMDL WIP practices

Who we Talked To

- State environmental agencies
- State ag agencies & regional offices
- Conservation districts
- Questionnaire for state agencies.
- Discussions with state agency staff.
- File reviews.

Findings: 3 Key Ingredients to Successful State Animal Agriculture Programs

- **Regulatory Programs**
 - Good coverage, practices, compliance
- **Voluntary incentive programs**
 - To supplement regulations
- **State ag cost share programs**
 - Significant annual funding levels
 - Targeted toward priority practices

Top-Line Findings

Maryland, Virginia, Pennsylvania

Do they have all 3 Ingredients?

Maryland Programs Evaluated

Additional Regulations

Financial Incentive Programs

(federal or state)

Voluntary, Incentive
Programs

Ag Certainty Program

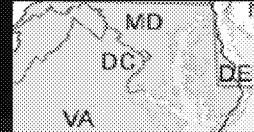
State Nutrient
Management
Program

Regulatory Nutrient
Management Program

Regulatory Permit Programs
MD CAFO/MAFO Program

Maryland Big Picture

5426 animal ops
& cropland farms in MD



Regulatory Programs
(5426)

Voluntary Programs

CAFO/MAFO
Program
11% (573)

MD Nutrient
Management
Program

- 100% (5426)
- gross income \$2500
- 8 animal units

Ag Certainty
Program

MD – CAFO Program

- Robust and well-implemented
- Regulates 11% of animal operations
 - >500 permits (mostly poultry)
 - Requires nutrient management plans & production area practices.
- MDE role:
 - issues permits
 - conducts regular farm visits
 - takes enforcement actions/fines for non-compliance

MD Nutrient Management Program

- Broad coverage – animals and cropland.
 - 5426 farms
- Requires high priority practices.

Manure
incorporation/
injection

Setbacks for
nutrient
application
near streams

Winter ban on
manure
spreading
(2016)

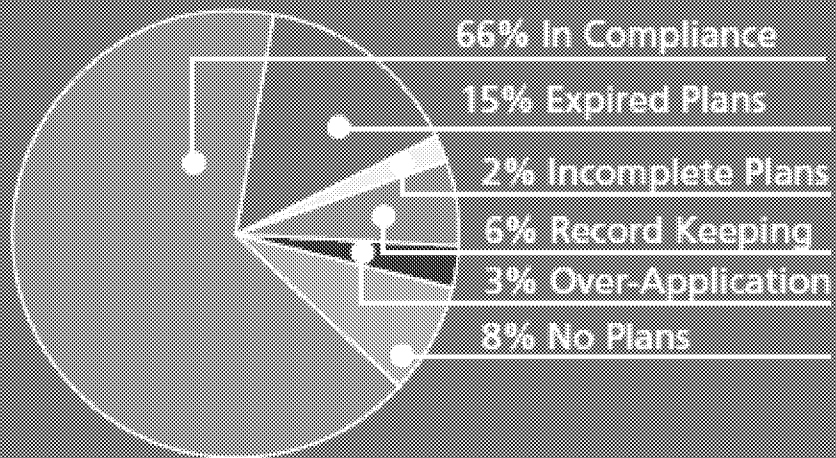
Livestock
exclusion
measures

MD Nutrient Management Program 2014 Annual Report

FIGURE 3:
On-Farm Audits
(Fiscal Year 2014)

733 Initial Inspections

14% Inspected,
includes field
assessments.



MD – Other Programs

- **Phosphorus Management Tool**
 - Brings latest science to farmers for P management.
- **Ag Certainty Program**
 - Provides further incentives to farmers
- **MD Ag Cost Share Program**
 - Substantial, reliable, targeted

Does MD have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance



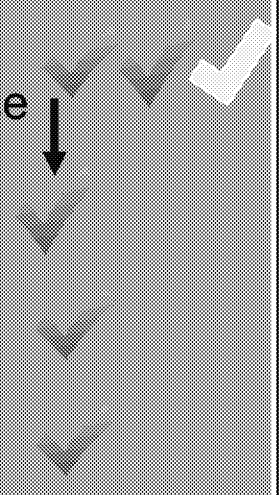
Does MD have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance
- **Voluntary incentive programs**
 - To accelerate conservation



Does MD have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance
- **Voluntary incentive programs**
 - To supplement regulations
- **State ag cost share programs**
 - Significant annual funding levels
 - Targeted toward priority practices





MD: Moving Forward

- **Increase compliance rates**
- **Implement livestock stream exclusion measures**
- **Implement the MD PMT**
- **Offset any growth in poultry load**

Virginia Programs Evaluated

Additional Regulations

Financial Incentive Programs

(federal or state)

Voluntary, Incentive Programs

Resource Management
Plan Program
Small AFO Strategy

State Nutrient Management Program

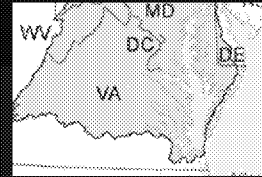
Regulatory Nutrient
Management Program
Ag Stewardship Act

Regulatory Permit Programs

CAFO Program, Pollutant Abatement Program (VPA)

Virginia Big Picture

1860 AFOs in VA



Regulatory Programs
56% (1037)

Voluntary Programs
44% (823)

CAFO
Permits (2)

VPA
Permits (1035)



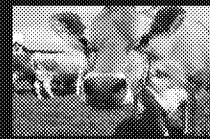
97%
Swine



80%
Poultry



13%
Dairy



87%
Dairies

VA – CAFO Program

- 2 VPDES CAFO Permits
- Nutrient management plans required.
- Plan to issue only a dozen more.
- EPA will continue to work with Virginia to ensure that facilities that need CAFO permits get them.

VA Pollutant Abatement Program

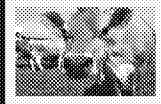
- State permit program.
- Robust and well-implemented.
- Covers over 1000 farms (56% of AFOs).



97%
Swine



80%
Poultry



13%
Dairy

- Nutrient Management Plans required.
- FY2013: 80% compliance rate
 - Inspected 498 operations.

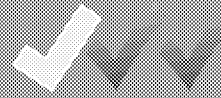
VA – Voluntary Programs

- Heavy reliance on voluntary programs.
- Resource Management Plan Program
 - Regulatory certainty.
 - Driver – valid threat of further mandates.
 - Promotes plans, buffers, stream exclusion, cover crops.
 - Stakeholder buy-in, good initial sign up.
- Small AFO Strategy
 - VADEQ/VDACS voluntary effort, WQ focused.
 - Assess all 800 AFOs, remedy WQ issues, flexible.
- Goal: NMPs on 75% of unpermitted dairies.

Does VA have the 3 Ingredients?

- **Regulatory Programs**

- Good coverage, practices, compliance



Does VA have the 3 Ingredients?

- **Regulatory Programs**

- Good coverage, practices, compliance

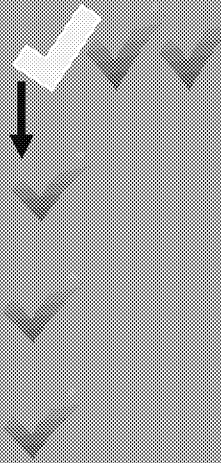
- **Voluntary incentive programs**

- To supplement regulations



Does VA have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance
- **Voluntary incentive programs**
 - To supplement regulations
- **State ag cost share programs**
 - Significant annual funding levels
 - Targeted toward priority practices





VA: Moving Forward

- **Implement Resource Management Plan Program**
- **Implement Small AFO Strategy to identify and address WQ issues.**
- **Develop and implement nutrient management on un-permitted dairies.**

Pennsylvania Programs Evaluated

Additional Regulations

Financial Incentive Programs

(federal or state)

**Voluntary, Incentive
Programs**

**State Nutrient &
Sediment Program**

**Manure Management
Program**

**Ag Erosion & Sediment
Control Program**

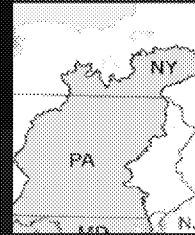
Regulatory Permit Programs

CAFO & CAO Programs

Pennsylvania Big Picture

~13,782 animal ops
in Bay Watershed

Regulatory Programs



10-20%

PA CAFO
Program
(323)

PA
CAO/VAO
Program
(2186)

80-90%

Manure
Management
Program
(unknown)
Farms that apply
manure or ag
wastewater.

Ag E&S
Program
(unknown)
Disturb 0.1 acre
(plowing, tilling,
animal heavy use
areas)

PA – CAFO/CAO Programs

- CAFO/CAO programs are mature and well-implemented.
 - Cover 10-20% of animal operations (>2,500).
 - Require nutrient management plans.
 - Inspect annually, non-compliance addressed.
 - Most operations are in 3rd permit cycle.
 - CAO program includes operations that are not regulated under the CAFO program.

PA Non-CAFO/CAO Program

- Covers 80-90% of operations.
- Manure Management and Ag E&S Control regulations are over 3 decades old.
- Compliance is historically low.
- Nutrient Management Plans are not required.
- Operations typically not inspected unless a complaint is filed or they are in a targeted watershed.
- Cropland not regulated unless CAFO/CAO.

Pennsylvania's Manure Management program engages farms with animal numbers below federal CWA NPDES and state regulatory thresholds for CAFOs, and requires a minimum set of BMPs.

Pennsylvania's Manure Management program engages farms with animal numbers below federal CWA NPDES and state regulatory thresholds for CAFOs, and requires a minimum set of BMPs.

- MMPs are not collected or submitted to the Commonwealth or approved by PADEP.
- PADEP does not track the number of operations known to have an MMP.
- The Commonwealth does not have a compliance assurance strategy or sufficient resources to ensure applicable operations are meeting MMP requirements.
- PADEP, SCC, and the CCDs do not have an integrated data system or approach in place for tracking and managing Manure Management program oversight.
- Pennsylvania does not appear to be conducting inspections where MMP compliance is the primary focus of the inspection unless the farm is the subject of a complaint or part of a Regional Agriculture Watershed Assessment Program Initiative.

What Makes a Good Compliance Program?

- Field presence through regular inspections
- Thorough inspections
- Credible threat of enforcement for noncompliance
- Escalating enforcement response
- Annual farmer reporting
- Annual compliance reports

PA: State Regulations Not Enough

- Additional policies/programs are likely necessary to provide further incentive for farmers to implement ag conservation practices to reduce nutrients and sediment.

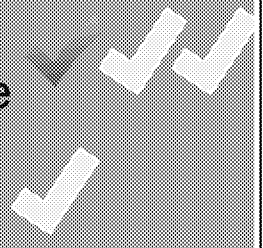
Does PA have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance



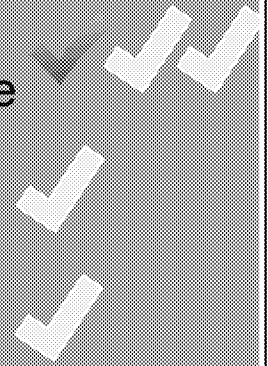
Does PA have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance
- **Voluntary incentive programs**
 - To supplement regulations



Does PA have the 3 Ingredients?

- **Regulatory Programs**
 - Good coverage, practices, compliance
- **Voluntary incentive programs**
 - To supplement regulations
- **State ag cost share programs**
 - Significant annual funding levels
 - Targeted toward priority practices





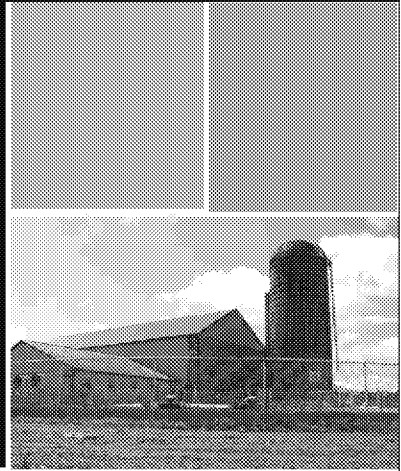
PA: Moving Forward

- **Increase compliance with current regulations.**
- **Launch voluntary, incentive based initiatives that supplement state regulations to:**
 - **accelerate priority practices in priority watersheds.**
- **Increase and target ag cost-share program.**

Utility of Ag Assessments

- Ensure states have the programs, policies, and resources necessary to succeed.
- Improve nutrient management verification and compliance.
- Share successful approaches.
- Strong state agricultural programs are essential for the Bay restoration.
- Let's all work together to strengthen programs.

For more information



Kelly Shenk, EPA Region III, Agricultural Advisor
shenk.kelly@epa.gov
410.267.5728

